ANNELIDA FROM BERMUDA.

Fam. AMPHINOMIDÆ.

HERMODICE *Kinberg.*

Öfvers. Kong. Vetensk-Akad. Förhand., p. 11, 1857.

HERMODICE CARUNCULATA *Kinberg.*

(Plate VII, Figs. 1-5.)

Nereis gigantea LINNÆUS. Syst. Nat. ed. 12, vol. i, p. 1086. 1776 (teste Baird).
Aphrodita carunculata PALLAS. Miscell. Zoöl. p. 102, pl. viii, figs. 12, 13. 1766 (teste Quatrefages).
Terebella carunculata GMELIN. Linn. Syst. Nat., vol. i, p. 3113. 1789.
Amphinome carunculata BRUGIÈRE. Enc. Méth., art. Amphinome, p. 46. Atlas, pl. 60, figs. 6, 7. 1789 (t. Baird).
Amphinome carunculata CUVIER. Dict. des Sci. Nat., art. Amphinome, vol. ii, p. 72.
Amphinome carunculata GRUBE. Fam. der Ann., pp. 40 and 122. 1851.
Amphinome carunculata QUATREFAGES. Hist. Nat. des Ann., vol. i, p. 395. 1865.
Amphinoma carunculata AUDOUIN ET M. EDWARDS. Littoral de la France, vol. ii, p. 123. 1834.
Pleione carunculata SAVIGNY. Syst. des Ann., p. 61.
Pleione carunculata LAMARCK. An. sans Vert. 1st ed., vol. v, p. 330; 2d ed., vol. v, p. 572 (t. Baird).
Pleione carunculata CUVIER. Règne Animal, vol. iii, p. 199, ed. Crochard, Annélides pl. 8, figs. 4, 4 A.
Pleione carunculata GRUBE. De Pleione carunculata. 1837.
Pleione carunculata TREVIRANUS. Beob. aus der Zoöl., p. 53, pl. xi. 1839.
Hermodice carunculata KINBERG. Öfvers. Kongl. Vetensk-Akad, p. 13. 1857.
Hermodice carunculata BAIRD. Linnean Society, Journal, Zoöl., vol. x, p. 219, pl. iv, figs. 3 a, b. 1868.

There is a series of short flattened setæ along the anterior margin of the ventral ramus, from ten to fifteen in number, which seems not to have been observed.

The dorsal setæ are quite long, very delicate, simple, capillary.

The ventral setæ are much shorter than the dorsal, differ much in length, diameter, and number of teeth found along their outer third.

Some are bluntly rounded and curved at the apex; others have a single blunt tooth just back of the apex, on the side opposite the series of teeth.

EURYTHOË *Kinberg.*

Öfvers. af Kongl. Vetensk-Akad. Förhandl., p. 13. 1857.

EURYTHOË MACROTRICHA Baird.

(Plate VII, Figs. 6–9.)

Amphinome macrotricha SCHMARDA. Neue Wirbell. Thiere, vol. i, part 2, p. 144, figs. a, b, c, in text, and pl. xxxiv, fig. 290. 1861.
Amphinome macrotricha QUATREFAGES. Hist. Nat. des Ann. vol. i, p. 406. 1865.
Eurythoë macrotricha BAIRD. Linnean Society, Journal, Zoöl., vol. x, p. 225, pl. iv, figs. 5 a, b. 1868.

Schmarda's description of this species is very short, and I am without information as to the original color of the specimens sent me. The reference, however, is probably correct. On the anterior margin of the ventral ramus is a series of short, flattened setæ, 6 to 9 in number (Fig. 9). The ventral setæ are not so much curved externally as in Schmarda's figure.

The collection includes a single specimen belonging to this family, too much injured for identification.

Fam. CHRYSOPETALIDÆ.

BHAWANIA *Schmarda.*

Neue Wirbellose Thiere, vol. i, part ii, p. 164. 1861.

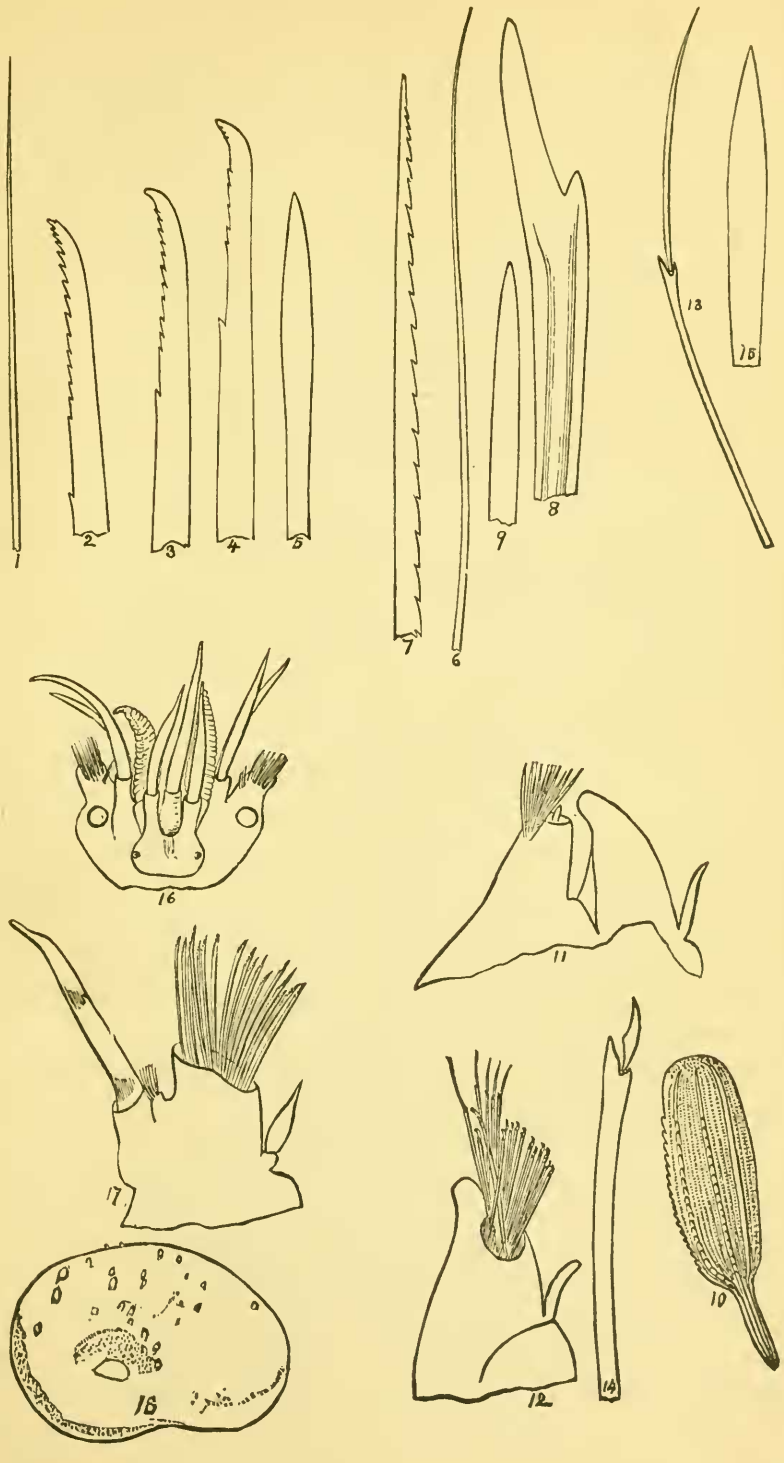
BHAWANIA GOODEI *n. sp.*

(Plate VII, Figs. 10–15.)

No good view of the head was obtained. The anterior segments curve directly forwards, embracing the head and reaching beyond it; palæ and setæ both projecting far beyond it, and in alcoholic specimens it seems impossible to free the head from the surrounding parts.

On the ventral surface there is an oval caruncle reaching through five segments, its length about double its breadth.

The palæ (Fig. 10) are broadly rounded externally, sides slightly convex, attached by a long narrow process. The inner edge is denticulated to near the end. The surface is covered by numerous longitudinal raised lines, of which three are wider than the others. All these lines, except the outer one of the wide lines, are covered with raised scales, which are very numerous and small on the narrow lines, presenting, when moderately magnified, the appearance of series of beads. The external wide band is smooth. Some of the raised lines are continued on the insertion plate. The palæ are very numerous; from the middle line of each lateral half of the body they curve—the external, outward; the internal, inward. Fig. 10 represents one of the palæ taken from about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the middle line of the body; passing from this line outward they become somewhat narrower.

Feet biramous; ventral ramus (Fig. 12) a little longer than the dorsal, curved upward, tapering slightly from base to apex, bluntly rounded externally. It carries a finger-shaped cirrus which originates near the base of the ramus. Dorsal ramus (Fig. 11) somewhat conical, truncated externally, and bearing a short cirrus, which arises near the center of the truncated surface. The two rami are very close to each other. Setæ of the ventral ramus of two kinds, both compound; in the upper part of the bundle from two to six, elongate (Fig. 13), delicate, with long capillary appendix; all the others much shorter (Fig. 14), stouter, with short appendix. Setæ of dorsal ramus (Fig. 15) from ten to fifteen in number, all of one kind, thin, pointed, flattened, widest near the center; they arise from the upper side of the ramus. The anterior segments curve forwards, forming semicircles. All the segments are very narrow. After the fifth segment the body has a uniform diameter to the posterior third, after which it tapers uniformly to about one-half the greatest width. The falling off in width is also rapid along the first five segments.

Color, in alcohol, pale light-yellow; ventral surface yellowish, or reddish-brown.

Body slightly convex above; flattened below.

Length (largest specimen), 50mm.

Width, 3mm.

Specimen only 10mm in length were also 3mm, or even 3.5mm, in width.

Fam. POLYNOIDÆ.

HALOSYDNA *Kinberg.*

Öfversigt Kongl. Vetensk-Akad. Förhand., p. 384. 1855.

HALOSYDNA LEUCOHYBA (*Schmarda*).

(Plate VII, Figs. 16–18. Pl. VIII, Figs. 19, 20.)

Polynoë leucohyba SCHMARDA. Neue Wirbellose Thiere, vol. i, part ii, p. 153, figures in text a, b, c, pl. xxxvi, fig. 308. 1861.

Polynoë leucohyba QUATREFAGES. Hist. Nat. des Ann., vol. i, p. 251. 1865.

? *Antinoë leucohyba* BAIRD. Linnean Society, Journal, vol. viii, p. 193.

The width of the head, back of the bases of the antennæ, exceeds the length (Fig. 16). The head is slightly convex above, with a central depression extending about one-half of the way back from the anterior margin; sides strongly convex; posterior margin straight; bases of the lateral antennæ as long as the rest of the head.

There are, probably, four eyes, but in the alcoholic specimens only two could be seen; these were lateral, circular, large, on the median line.

Antennæ smooth, cylindrical to near the apex, then tapering suddenly; median antenna about one-third longer than the lateral.

Superior tentacular cirrus about equal in length to the median antenna; inferior cirrus as long as the lateral antennæ.

Palpi triangular, stout, tapering uniformly to near the end, terminating in a small conical process; their margins are scalloped, and their surfaces thrown into folds by deeply impressed lines; length about that of the lateral antennæ.

There are eighteen pairs of elytra. (Schmarda gives seventeen in the text; in the figure, seventeen on one side, eighteen on the other). The first pair, circular; the others, oval (Fig. 18); slightly emarginate along the anterior margin; covered with small, white, rounded papillæ on their exposed surface, becoming more numerous on the posterior elytra.

The feet are quite stout; dorsal ramus (Fig. 17) minute; ventral ramus divided into two parts by slight longitudinal constrictions; dorsal cirri arising from stout basal articles, reaching a little beyond the ventral setæ; ventral cirri of first pair as long as the dorsal cirri, and similar to them in all respects, directed forwards. After the first pair they arise from minute basal articles, are fusiform, reach to the end of the ventral ramus.

There are from 6 to 10 dorsal setæ (Fig. 20), short, acute, broad at base, transversely serrate. Ventral setæ (Fig. 19) stout, bi-dentate, except those of the first segment, which end in a single point. They are in two bundles, but are all of one kind.

Exposed part of elytra, blue; covered part, grayish-white; papillæ of elytra, white; body, beneath the elytra, blue; anterior part of head and bases of elytra, blue; posterior part of head with numerous black pigment spots; feet and ventral surface, yellowish-white; dorsal cirri with a blackish band near the base, and another about two-thirds of the way out.

I refer the specimens sent me by Mr. Goode to *Polynoë leucohyba* SCHMARDA, though it will be seen that the figures differ, especially those of the setæ. Baird has doubtfully referred this species to *Antinoë* KINBERG, but Fig. 16 shows that it cannot be so referred. Schmarda says nothing about the head.

Fam. HESIONIDÆ.

FALLACIA *Quatrefages.*

His. Nat. des Ann., vol. ii, p. 98. 1865.

FALLACIA PROCTOCHONA (*Schmarda*) *Qtrfg.*

(Plate VIII, Fig. 21.)

Hesione proctochona SCHMARDA. Neue Wirbellose Thiere, vol. i, part ii, p. 79, figure of seta in text, and pl. xxviii, fig. 226. 1861.
Fallacia proctochona QUATREFAGES. Hist. Nat. des Ann., vol. ii, p. 99. 1865.

At first it seemed that it would be necessary to institute a new genus for this species. Afterwards two minute papillæ were found on the anterior angles of the head, which are doubtless rudimentary antennæ. As they are too small to be seen even with an ordinary hand magnifying glass, it is not surprising that Schmarda failed to mention them. Mr. Goode collected nine specimens of this species, and the museum of Union College has a large number of specimens, collected by myself on the west cost of Florida, from Sarasota Bay to Key West. Schmarda states correctly in the text that there are sixteen tentacular cirri; his figure shows but fourteen. These, like the dorsal cirri, arise from long cylindrical basal articles. From Schmarda's figure they would seem to arise in a linear series; in fact they are in pairs, one above the other. The basal article of the ventral cirri is very short. The upper margin of the foot (Fig. 21) is prolonged into a conical cirrus. According to my Florida notes the antennæ are red. It is impossible to determine from alcoholic specimens how many segments bear tentacular cirri, but there appears to be but one.

The ante-anal segment has no pedal rami, nor setæ, but merely two long cirri, dorsal and ventral.

The anal segment has two long anal cirri, as long as the dorsal cirri. The anal opening is surrounded by a series of low, flattened, projections, with convex external margin, oval in form, about six in number.

It would appear that Schmarda's specimens had lost the anal cirri.

PODARKE *Ehlers.*

PODARKE OBSCURA *Verrill.*

VERRILL. Invert. Animals of Vineyard Sound, etc., p. 589, pl. xii, fig. 61. 1874.
WEBSTER. Annel. Chæt. of the Virginain Coast, p. 216. 1874. Annel Chæt. of New Jersey, p. 107. 1880.

The collection contains a few specimens much injured, but probably belonging to this species.

Fam. NEREIDÆ.

NEREIS *Cuvier.*

Nereis Bairdii, *n. sp.*

(Plate VIII, Figs. 22–28.)

The head of this species (Fig. 22) is quite long, the anterior thirds set off from each other and bounded by lines curving inward; the posterior third with convex sides; posterior margin straight.

Eyes not very large, circular, lateral.

Antennæ about one-half as long as the head, removed from each other, at origin, by less than their own diameter; inserted in slight depressions of the anterior margin of the head; bluntly conical.

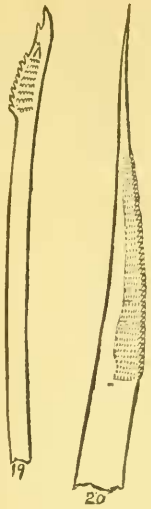
Palpi very long, not large, not tapering, with large terminal articles, which, in alcoholic specimens, are nearly spherical.

The buccal segment, in contracted specimens, has the same length as the second segment; probably double that length in life.

The maxillary ring of the proboscis is short (Figs. 22ª, 23); the paragnathi are complete; mostly conical; arrangement, i, irregularly V-shaped; ii, double series, irregular; iii, two transverse, linear series; iv, numerous, irregular; v, sometimes wanting, sometimes one, two, or three, small; vi, on each side a single, narrow, elongated transverse denticle, ends rounded; situated on elevations (Fig. 22) which have straight inner margins; outer margins straight to near the anterior end, when they curve inward; vii and viii in two series, the anterior composed of a few large denticles, the posterior more numerous and smaller.

Tentacular cirri with stout cylindrical basal articles; the cirri themselves delicate; the posterior superior longest, reaching back to the eighth segment; the others much shorter, as shown in the figure.

Feet rather stout and short; on the anterior segments (Fig. 24) the lingulæ and rami are nearly of the same length, stout, conical. Dorsal cirrus arising from the upper margin of its lingula, stout, conical, not reaching quite to the end of the lingula. Ventral ramus bi-labiate; anterior lip a little longer than the posterior. Ventral cirrus arising just within the base of its lingula, delicate, finger-shaped, nearly as long as the lingula. Further back the feet undergo some changes. The superior lingula is enlarged (Fig. 25), the dorsal cirrus moves nearer the apex of its lingula, and on the extreme posterior feet becomes a little more delicate (Fig. 26.) The dorsal ramus becomes smaller, more sharply conical. The ventral ramus shortens, especially its anterior lip. The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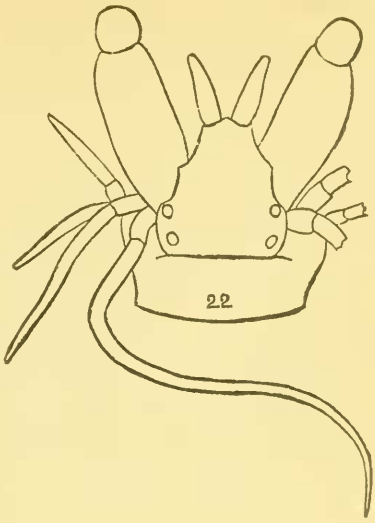
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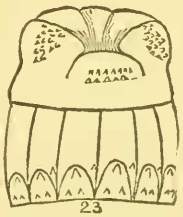
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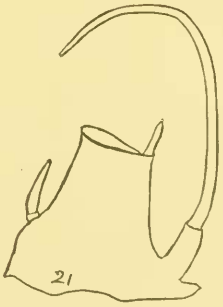
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24a


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26a

ventral lingula retains its length but loses in diameter. The ventral cirrus remains unchanged. Other specimens, certainly belonging to this species, have the feet more delicate, the dorsal and ventral cirri a trifle longer. (Figs. 24ª, 26ª.)

Anal cirri filiform, as long as the last ten segments.

In the dorsal ramus there are from 6–10 setæ (Fig. 28) with long delicate appendix, the terminal points of the stem equally long. These setæ form the upper part of the ventral bundle, while its lower part is made up of falcate setæ, appendix short (Fig. 27), terminal points of stem very unequal in length.

Body convex above, slightly convex below; of nearly uniform width for the anterior three-fourths; tapering slightly along the posterior fourth, but appearing to retain a uniform diameter, on account of the lengthening of the feet. A few of the anterior segments also taper slightly.

Length, 35–50^{mm}.

Width, 3–4^{mm}.

Number of segments, 50–80.

Nereis gracilis, *n. sp.*

(Plate IX, Figs. 29–35.)

Head wide (Fig. 29), slightly convex laterally and above, a little concave behind, produced in front to form the bases of the antennæ.

Eyes quite large, placed well in front; those on either side nearly in contact.

Antennæ with long cylindrical basal articles, produced from the head, just within the anterior eyes; they are long, conical.

Palpi long and stout, curved inward near the base; terminal articles quite long; in contracted specimens they fall a little short of the antennæ.

Proboscis and jaws not seen.

On the specimen figured, which was otherwise in good condition, the posterior superior tentacular cirri were both lost. On another specimen, much injured, this cirrus remained, and was found to be very long, reaching back to the thirty-fourth segment, being nearly three times as long as the anterior superior cirrus, which reaches to the twelfth segment; the inferior cirri are much shorter.

Buccal segment produced forward along its anterior margin, encroaching a little on the head; its length, in alcoholic specimens, is about that of the next segment.

The dorsal cirri are very long and delicate; they have a stout basal article, which, on the anterior segments, is merged in the base of the upper lingula (Fig. 30); further back the lingula has the appearance of arising from the base of the cirrus (Figs. 31, 32). The dorsal cirri increase in length gradually, backward, and appear to gain much more than they really do, owing to the shortening of the other parts of the foot.

On the anterior segments the free portion of the upper lingula (Fig. 30) is about one-third as long as the dorsal cirrus, delicate, conical. The upper ramus is as long as the free part of the upper lingula, but falls a little short of its apex; in form it is like the lingula. The ventral ramus is bi-labiate, the anterior lip much the longest, conical, and minute at extremity (Fig. 30); basal three-fourths stout, with strongly convex sides. The posterior lip is very broad, completely concealing the base of the anterior lip in a posterior view (Figs. 30, 32); sides nearly straight, apex bluntly and irregularly rounded. The inferior lingula is long, conical, swollen at base. The ventral cirrus arises some distance within the base of the ventral lingula, and reaches nearly to its apex; it is very delicate, conical.

There is a progressive diminution in size of all parts connected with the feet from before backward, with the exception of the cirri; the lingulæ, especially, become much smaller, falling short of the rami; but the cirri elongate, the ventral cirrus finally reaching beyond both lingula and ramus.

The setæ are of three kinds: those of the dorsal ramus for the most part with delicate capillary appendix; the points of the stem nearly equal in length (Fig. 33); with these, in the lower part of the bundle, a few falcate setæ (Fig. 35); in the ventral ramus there are two bundles of setæ; the upper bundle is composed mostly of setæ with appendix similar to those of the first kind, but with one of the terminal points of the stem much longer than the other (Fig. 34); there are also a few of the other two forms; the setæ of the lower bundle are mainly falcate (Fig. 35), with also a few similar to Fig. 34.

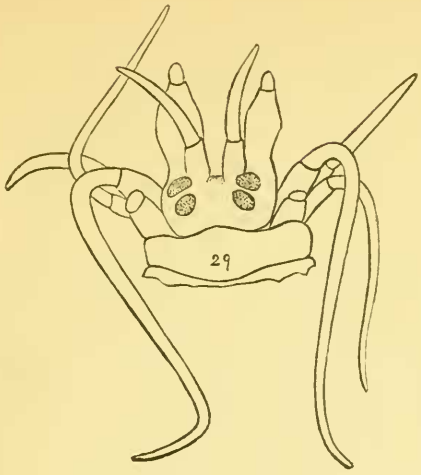
Anal segment simple, cylindrical; anal cirri as long as the dorsal cirri, and like them in all respects.

Body strongly convex above; slightly convex below; tapering a little along a few of the anterior segments, and also along the posterior third.

Length of only entire specimen, 60^{mm}.

Width, 4.5^{mm}.

Number of segments, 92.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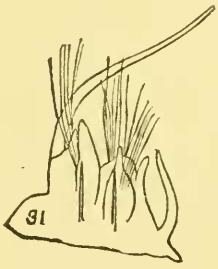
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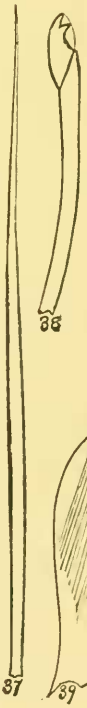
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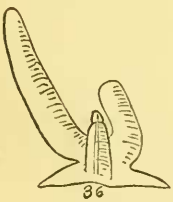
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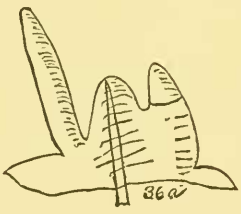
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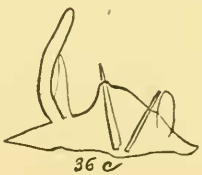
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Fam. EUNICIDÆ.

EUNICE *Cuvier.*

EUNICE MUTILATA, *n. sp.*

(Plate IX, Figs. 36, 36*a–d*—40.)

This species is represented in Mr. Goode's collection by an anterior fragment composed of 39 segments, length 30^{mm}; and by a posterior fragment, 180 segments, length 90^{mm}. These may have belonged to the same specimen, but do not make up the whole of any specimen, an intermediate part, of unknown length, being lost.

The head is distinctly and deeply bi-lobed.

The antennæ rather delicate, cylindrical, smooth, bluntly rounded at apex; median antenna 3.5^{mm} in length, reaching back to the middle of the fifth (third setigerous) segment; inner pair, length 3^{mm}; outer pair a mere trifle shorter than the inner.

Eyes small, black, circular, between the bases of the paired antennæ.

Buccal segment equal in length to the three segments following it, taken together; second segment a little shorter than the third.

Tentacular cirri as long as the buccal segment, conical, apex blunt.

The branchiæ begin on the seventh setigerous segment; on the seventh, eighth, and ninth segments, a single filament; on the tenth, eleventh, and twelfth, two filaments; on the thirteenth, fourteenth, and fifteenth, three filaments; from the sixteenth to the thirty-seventh, four filaments (Fig. 36*b*); on the posterior fragment the branchiæ have but a single filament (Fig. 36*c*), becoming very delicate and short on the posterior segments (Fig. 36*d*).

The dorsal cirri, largest on the first setigerous segment (Fig. 36), growing progressively smaller (Fig. 36*b*); at first finger-shaped, then conical. On the first segment of the posterior fragment this cirrus shows considerable increase in length, but is shorter than the branchia (Fig. 36*c*); while on the last segments (Fig. 36*d*), though the length of the cirrus is about the same, it is much longer than the branchia.

The ventral cirri are stout, conical, base swollen; outer third, on anterior segments, cut off by a shallow constriction; longest on first segments.

Anal segment cylindrical, small. Anal cirri short.

The upper (capillary) (Fig. 27) setæ are very long and delicate; longest on the posterior third. The comb-like setæ (Fig. 40) have their outer

teeth prolonged. The setæ of the lower bundle are compound, longer on the posterior segments than in front; apex (Fig. 38) bi-dentate.

In the anterior rami there is but one acicula, simple, pointed, projecting a little beyond the foot; afterwards a second acicula is added (Fig. 39), curved within the ramus, ventral, apex bluntly bi-dentate, projecting.

The body is strongly convex above, flattened below.

The width at the fifteenth segment, 5^{mm}; tapering very gradually in both directions, giving on the posterior segments a width of 1.5^{mm}.

The color, in alcohol, is light reddish-brown, with indications of a white band on the posterior half of the fourth setigerous segment. On the posterior segments the color is dark reddish-brown.

There are numerous gray specks on the entire surface.

EUNICE DENTICULATA *n. sp.*

(Plate X, Figs. 41, 41 *a*, *b*–45.)

Head distinctly bi-lobed; lobes flattened, broad; antennæ short, delicate, about one-third longer than the head, smooth, conical, equal.

Buccal segment about the length of the next three. Second segment not plainly separated from the buccal, when seen from above.

Tentacular cirri delicate, conical, about one-half the length of the buccal segment.

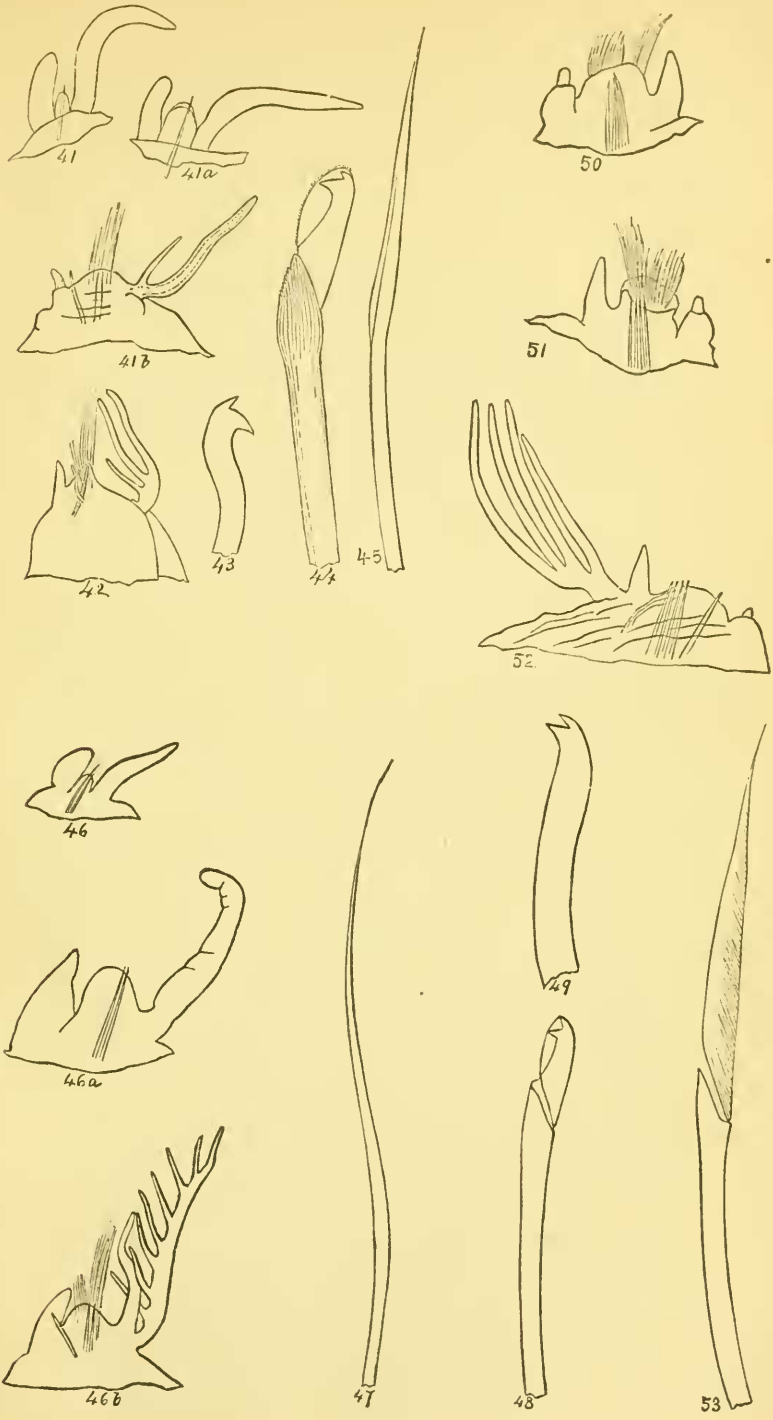
Dorsal cirri long and stout on the non-branchiated segments (Figs. 41, 41*a*), very delicate on the segments with branchiæ (Figs. 41*b*, 42), and arising from the side of the branchial stem.

The ventral cirri are quite long on the anterior segments (Figs. 41, 41*a*); after the first few segments they have a swollen base (Fig. 41*b*), but this is lost further back (Fig. 42).

The branchiæ appear at about the middle third, and for a large number of segments consist of a single filament (Fig. 41*b*); at about the beginning of the last third another filament is added, while on the posterior segments there are three.

The capillary setæ (Fig. 43) have a long cylindrical inner part; a short, wide, flattened, outer part, tapering suddenly to a sharp point.

The compound setæ (Fig. 44) have a small, outer tooth; a large, stout, inner tooth. When highly magnified the stem shows a series of minute denticulations along one margin, near the appendix, and the membrane of the appendix shows an incised margin.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The lower acicula (Fig. 45) is curved externally, and has two sharp, triangular, teeth, of which the lower is very large.

Body slightly convex above, flattened below; segments numerous, short; on the largest specimen, at the widest part of the body, there were four segments, in a length of 1^{mm}.

Anal cirri lost on all our specimens. Color in alcohol, uniform yellowish-white.

Length of longest complete specimen, 60^{mm}.

Width, 3^{mm}.

Another specimen, posterior part lost, had a width of 4^{mm}.

The specific name is given in reference to the denticles on the stem of the compound setæ.

Eunice longisetis *n. sp.*

(Plate X, Figs. 46, 46 *a*, *b*–49.)

Head four-lobed, upper lobes small; antennæ smooth, median and median lateral reaching back to the fifth segment; lateral about one-half as long as the median.

The dorsal cirri are long and stout (Figs. 46, 46*a*, *b*,) on the branchiated segments, arising just at the base of the branchial stem.

Ventral cirri stout, reaching beyond the foot. Branchiæ begin on the sixth setigerous segment, at first as a single filament, delicate, shorter than the dorsal cirrus; further back the number of filaments increases to eight, carried on the side of a stout stem, which is nearly double the length of the dorsal cirri; on the posterior segments they become reduced to the same condition as on the anterior, but persist to the end.

The capillary setæ are very long, reaching nearly to the end of the dorsal cirri (Fig. 47); the compound setæ are about one-half as long as the capillary, terminal teeth sharp (Fig. 48), nearly at right angles to each other.

In the upper part of the foot are two or three sharp aciculæ, projecting slightly; in the lower part, and extending into the ventral cirrus, a single, curved, bi-dentate acicula (Fig. 49).

Body convex above; flattened below; anal segment short; anal cirri two, in all respects similar to the dorsal cirri.

Color (in alcohol), dark reddish-brown. Fourth setigerous segment white. Antennæ, tentacular cirri, and dorsal cirri evidently banded with white and some other color in life, but with only slight traces of such marking remaining. Aciculæ black.

Buccal segment as long as the four following segments together; second segment short, not well defined above; tentacular cirri about one half the length of the buccal segment.

Number of segments, 107.

Length, 40mm.

Greatest width, 4mm.

EUNICE LONGICIRRATA *n. sp.*

(Plate XII, Figs. 75–80.)

Head distinctly four-lobed; upper lobes narrow, but somewhat elongated. Median antennæ reaching back to the eleventh segment; median lateral also long, reaching to about the eighth segment; lateral about one-half as long as the last. They are all very delicate, smooth.

The buccal segment is as long as the next three segments. The second segment is nearly as long as the third, plainly set off from the first both above and below; its tentacular cirri are very delicate, acutely conical, reaching forward to the middle of the head.

The dorsal cirri on the anterior segments are large and long (Figs. 75–77), irregularly wrinkled; they diminish in size very gradually backward to the middle of the body; behind the middle they again gain in diameter and length, but are never so large as on the anterior segments.

The branchiæ begin as a single filament on the third setigerous segment (Fig. 76); on the next segment they have 6 subdivisions, on the next from 12 to 15. This number they retain to about the thirty-third segment; then for the next ten segments the filaments gradually become fewer; from about the forty-third to the fifty-third there is but one filament; after this they disappear. The branchiated segments form about one-third the length of the body.

The anal cirri are in two pairs; one quite short, blunt; the other as long as the last twelve segments taken together, every way similar to the antennæ.

The bidentate setæ have the form shown in Fig. 79; the outer tooth is quite long, bluntly rounded at apex; the lower sharp, triangular.

In the anterior segments there is one stout, projecting acicula, in the upper part of the foot; presently another is added; still further back a bi-dentate acicula (Fig. 80) appears, in the lower part of the foot, followed quickly by another of the same kind. Delicate setæ penetrate the base of the dorsal cirri.

The general color of the body (in alcohol) is yellowish-white; beautifully irridescent.

Body strongly convex above; flattened below.

Length (about), 110mm.

Greatest width, 4mm.

There is a gradual diminution of diameter along the posterior third.

EUNICE VIOLACEA *Grube.*

Eunice violacea, Grube. Annulata Örstediana p. 57. 1856.
Eunice violacea Quatrefages. Hist. Nat. des Annel., vol. i, p. 326. 1865.
Eunice Roussai Ehlers. Die Borstenwürmer, p. 309. 1868.

Ehlers' identification of *E. violacea* Grube with *E. Roussæi* Quatr. seems at best very doubtful. In the former, the branchiæ appear on the sixth segment; in the latter, on the tenth, and both descriptions seem to have been made from adult forms. Our material is hardly sufficient to decide the question positively.

MARPHYSA *Quatrefages.*

MARPHYSA ACICULARUM *n. sp.*

(Plate X, Figs. 50–53.)

Head broad, distinctly bi-lobed; lobes very broadly rounded in front; antennæ smooth, tapering but little; median and median pair about three times as long as the head; lateral pair a little shorter than the last; eyes two, black, between the bases of the paired antennæ.

Buccal segment double the length of the following segment; second segment a trifle shorter than the third.

Dorsal cirri (Figs. 50–52) stout, conical, retaining about the same length throughout; ventral cirri on the anterior half of the body borne on a stout cylindrical process, which becomes smaller on the posterior part of the body.

The branchiæ begin (on adult specimens) on the twenty-fifth to twenty-ninth setigerous segment, at first as a single filament, shorter than the dorsal cirrus. The filaments soon increase in number to four (Fig. 52), but on the posterior segments become again reduced to one very minute filament.

The superior (capillary) setæ are about double the length of the inferior, and of the ordinary form. The form of the inferior setæ is shown in Fig. 53.

There are from three to five sharp, black acicule in each foot, scarcely projecting.